Antitubulin agents for the treatment of cancer-a medicinal chemistry update

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Abstract

The antitubulin agents taxanes and Vinca alkaloids form the first-line of treatment in clinical oncology for many cancers. The crucial role of micro-tubules in cell division has made antitubulin agents the focus of research, with sustained efforts to find new agents and to improve the profile of known agents by overcoming multi-drug resistance (MDR) and improving the druggability. The present review updates the medicinal chemistry of antitubulin agents covering the patents and literature published from May 2002 to November 2005. The antitubulin agents have been broadly classified into microtubule-destabilising agents, microtubule-stabilising agents and kinesin-like spindle protein inhibitors. This review provides an insight into the diversity of the chemical classes with antitubulin mechanisms of anticancer activity. antitubulin; kinesin-like spindle protein inhibitor; medicinal